RVD2008-29

Re-evaluation Decision

Rimsulfuron

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Overview

Re-evaluation Decision

After a re-evaluation of the herbicide rimsulfuron, Health Canada's Pest Management Regulatory Agency (PMRA), under the authority of the *Pest Control Products Act* and Regulations, is granting continued registration of products containing rimsulfuron for sale and use in Canada.

An evaluation of available scientific information found that products containing rimsulfuron have value in the food and crop industry and do not present unacceptable risks to human health or the environment when used according to label directions. As a condition of the continued registration of rimsulfuron uses, new risk-reduction measures must be included on the labels of all products. No additional data are required at this time.

The regulatory approach for the re-evaluation of rimsulfuron was first presented in Proposed Re-evaluation Decision PRVD2008-06, *Rimsulfuron*, a consultation document.[1] This Re-evaluation Decision[2] describes this stage of PMRA's regulatory process for the re-evaluation of rimsulfuron as well as summarizes the Agency's decision and the reasons for it. Appendix I summarizes the comments received during the consultation process and provides the PMRA's response to these comments. The comments did not result in changes to the proposed re-evaluation decision as stated in PRVD2008-06, *Rimsulfuron*. To comply with this decision, registrants of products containing rimsulfuron will be informed of the specific requirements affecting their product registration(s) and of the regulatory options available to them.

For more details on the information presented in this Re-evaluation Decision, please refer to the Science Evaluation in the related Proposed Re-evaluation Decision PRVD2008-06, *Rimsulfuron*.

1 "Consultation statement" as required by subsection 28(2) of the *Pest Control Products Act*.

2 "Decision statement" as required by subsection 28(5) of the *Pest Control Products Act*.

What Does Health Canada Consider When Making a Re-evaluation Decision?

The key objective of the Pest Control Products Act is to prevent unacceptable risks to people and the environment from the use of pest control products. Health or environmental risk is considered acceptable if there is reasonable certainty that no harm to human health, future generations or the environment will result from use or exposure to the product under its conditions or proposed conditions of registration.[3] The Act also requires that products have value[4] when used according to label directions. Conditions of registration may include special precautionary measures on the product label to further reduce risk.

To reach its decisions, the PMRA applies rigorous, modern hazard and risk assessment methods and policies. These methods consider the unique characteristics of sensitive segments of the population in both humans (e.g. children) and organisms in the environment (e.g. those most sensitive to environmental contaminants). These methods and policies also consider the nature of the effects observed and the uncertainties when predicting the impact of pesticides. For more information on how the PMRA regulates pesticides, the assessment process and risk-reduction programs, please visit the PMRA's website at www.pmra-arla.gc.ca.

What Is Rimsulfuron?

Rimsulfuron is a selective systemic sulfonylurea herbicide. It is registered for use on several terrestrial food and feed crops, including pre-emergent use on field corn (Eastern Canada only) as well as postemergent use on field corn (Eastern Canada and Manitoba), potatoes (Eastern Canada, irrigated potatoes in Western Canada and seed potatoes), tomatoes (transplanted processing and fresh market field) and lowbush blueberries (Eastern Canada only). Rimsulfuron may be used alone or in co-formulation with nicosulfuron to control quackgrass and annual grassy weeds as well as black bulrush, redroot pigweed (including triazine resistant) and lamb's-quarters (suppression only). Rimsulfuron is to be applied once per year at a rate of 12.5–15.0 g a.i./ha by ground equipment only.

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3 "Acceptable risks" as defined by subsection 2(2) of the *Pest Control Products Act*.

4 "Value" as defined by subsection 2(1) of the *Pest Control Products Act*: "the product's actual or potential contribution to pest management, taking into account its conditions or proposed conditions of registration, and includes the product's (a) efficacy; (b) effect on host organisms in connection with which it is intended to be used; and (c) health, safety and environmental benefits and social and economic impact."

Health Considerations

Can Approved Uses of Rimsulfuron Affect Human Health?

Rimsulfuron is unlikely to affect your health when used according to label directions.

People could be exposed to rimsulfuron by consuming food and water, working as a mixer/loader/applicator or by entering treated sites. The PMRA considers two key factors when assessing health risks: the dose levels at which no health effects occur and the dose levels to which people may be exposed. The dose levels used to assess risks are established to protect the most sensitive human population (e.g. children and nursing mothers). Only those uses where exposure is well below levels that cause no effects in animal testing are considered acceptable for continued registration.

Toxicology studies in laboratory animals describe potential health effects from varying levels of exposure to a chemical and identify the dose where no effects are observed. The health effects noted in animals occur at doses more than 100 times higher (and often much higher) than levels to which humans are normally exposed when using rimsulfuron products according to label directions.

An acute overexposure to rimsulfuron can produce a variety of symptoms in animals and humans. Symptoms may include weight loss, nasal secretions, ruffled fur and hair loss. Local effects of an acute dermal exposure may include slight erythema. Contact with the eye may cause corneal opacity, iritis, conjunctival redness and chemosis.

Additional toxic effects on the liver, kidney and testes, as well as effects noted in pregnant females (increased abortions and mortality), were observed in animals at very high doses only; therefore, they would not occur when rimsulfuron products are used according to label directions. Based on the weight of evidence, rimsulfuron is considered non-carcinogenic. A cancer risk assessment was not required.

Although there are no risks of concern based on current uses of rimsulfuron, some additional protective measures (personal protective equipment and improved work practices) must be included on product labels to meet current standards.

Residues in Water and Food

Dietary risks from food and water are not of concern.

Reference doses define levels to which an individual can be exposed over a single day (acute) or lifetime (chronic) and expect no adverse health effects. Generally, dietary exposure from food and water is acceptable if it is less than 100% of the acute reference dose or chronic reference dose (acceptable daily intake). An acceptable daily intake is an

estimate of the level of daily exposure to a pesticide residue that, over a lifetime, is believed to have no significant harmful effects.

Human exposure to rimsulfuron was estimated from residues in treated crops and drinking water, including the most highly exposed subpopulation (e.g. children 1 to 6 years old). This aggregate exposure (i.e. to rimsulfuron from food and drinking water) represents less than 6% of the chronic reference dose.

The *Food and Drugs Act* prohibits the sale of adulterated food, that is, food containing a pesticide residue that exceeds the established maximum residue limit (MRL). Pesticide MRLs are established for *Food and Drugs Act* purposes through the evaluation of scientific data under the *Pest Control Products Act*. Each MRL value defines the maximum concentration in parts per million (ppm) of a pesticide allowed in or on certain foods. Food containing a pesticide residue that does not exceed the established MRL does not pose an unacceptable health risk.

Rimsulfuron is currently registered in Canada for use on lowbush blueberries, field corn, potatoes and tomatoes. MRLs for rimsulfuron are currently specified for blueberry and tomatoes or processed foods derived from these foods. No specific MRLs have been established for corn and potatoes. Where no specific MRL has been established, a default MRL of 0.1 ppm applies, which means that pesticide residues in a food commodity must not exceed 0.1 ppm. The proposed amendments to the default MRL for rimsulfuron can be found in Section 8.1.2 of PRVD2008-06.

Risks in Residential and Other Non-Occupational Environments

Residential and other non-occupational risks are not of concern.

Rimsulfuron is not registered for use in any residential areas. Therefore, no residential or other non-occupational risks are expected.

Occupational Risks From Handling Rimsulfuron

Occupational risks are not of concern.

Based on both the precautions and directions for use on the original product labels reviewed for this re-evaluation, and also considering the use of appropriate protective equipment, the risk estimates associated with mixing, loading and applying activities meet current standards for all the scenarios. Therefore, occupational risks are not of concern. The required personal protective equipment includes long pants, a long-sleeved shirt and chemical-resistant gloves.

Occupational postapplication risks are not of concern.

Occupational postapplication risk assessments consider exposures to workers entering treated agricultural sites. Given the precautions and directions for use on the original product labels reviewed for this re-evaluation and the additional protective measures required (revised restricted-entry interval), postapplication non-cancer risk estimates for workers entering treated areas to perform high-exposure activities (scouting) meet current standards. Therefore, occupational postapplication risks are not of concern.

Environmental Considerations

What Happens When Rimsulfuron Is Introduced Into the Environment?

Rimsulfuron poses a potential risk to certain terrestrial and aquatic plants; therefore, additional risk-reduction measures need to be observed.

When rimsulfuron is applied for control of weeds in crops, some of it finds its way into soil and water. However, the chemical is not expected to persist as it is rapidly broken down by soil microbes and by chemical reaction in water. The breakdown chemical products that are formed persist for a longer period of time than rimsulfuron. Both rimsulfuron and its breakdown products are mobile and hence can move freely in soil. Water runoff on the soil surface can move the residues into nearby bodies of water, such as ponds and rivers. Water monitoring of these bodies of water have generally revealed residues at concentrations below levels of concern. To reduce the potential for leaching and runoff, it is important that additional risk-reduction measures be observed.

When rimsulfuron is used for weed control in crops, there is a potential for sensitive plant species on land and in water to be exposed to the chemical as a result of spray drift or runoff. Some of these species are sensitive to the chemical and would be adversely affected. To minimize the potential exposure, strips of land (buffer zones) between the agricultural field and the non-target terrestrial or aquatic areas will be left unsprayed. The width of these buffer zones will be specified on the product label. Rimsulfuron poses negligible risk to wild birds and mammals, bees and other arthropods as well as to aquatic organisms like fish, amphibians and invertebrates because concentrations in the environment are not expected to be harmful. Rimsulfuron's major transformation products pose a negligible risk to earthworms and terrestrial plants, as well as to aquatic organisms such as fish, aquatic invertebrates, amphibians and aquatic plants.

Value Considerations

What Is the Value of Rimsulfuron?

Rimsulfuron controls quackgrass and many annual grassy weeds in several crops at a low application rate.

Rimsulfuron reduces a portion of the economic losses caused by weeds estimated at $94.4 million in the early 1990s for field corn, potatoes, tomatoes and blueberries. Rimsulfuron (co-formulated with nicosulfuron) is the only herbicide registered for the control of black bulrush in lowbush blueberries. Compared to alternative non-sulfonylurea postemergent herbicides, rimsulfuron has greater flexibility in application timing when used on field corn, and has no or fewer restrictions on crop variety and soil type for use on tomatoes and potatoes. Although rimsulfuron plays a role in mitigating resistance development in weeds to other herbicide groups and may be used to control triazine-resistant redroot pigweed, consideration has to be given to resistance management as more weed species are reported to be resistant to herbicides that inhibit acetolactate synthase (such as rimsulfuron) than to herbicides having other modes of action.

Measures to Minimize Risk

Labels of registered pesticide products include specific instructions for use. Directions include risk-reduction measures to protect human and environmental health. These directions must be followed by law. As a result of the re-evaluation of rimsulfuron, the PMRA is requiring further risk-reduction measures for product labels.

Human Health

- Additional protective equipment to protect mixers/loaders/applicators
- A restricted-entry interval to protect workers entering treated sites
- Additional precautionary statements and directions for use to protect workers using a wettable granular formulation
- Precautionary statements to avoid drift to areas of human habitation or areas of human activity

Environment

- Additional precautionary statements and directions for use, as well as buffer zones to protect non-target terrestrial and aquatic plants
- Additional precautionary statements to protect aquatic habitats from use on sites conducive to runoff
- Additional precautionary statements for use in areas with the potential to leach to groundwater

Appendix XI in PRVD2008-06 lists all the required label amendments.

Other Information

For rimsulfuron, the summary of assessments found in PRVD2008-06 serves as an evaluation report. Lists of references considered by the Agency in support of the registration decision are found in this Re-evaluation Decision (Appendix II). The relevant test data on which the decision is based are available for public inspection, upon application, in the PMRA's Reading Room (located in Ottawa). For more information, please contact the PMRA's Pest Management Information Service by phone (1-800-267-6315) or by e-mail (pmra_infoserv@hc-sc.gc.ca).

Any person may file a notice of objection regarding this decision on rimsulfuron within 60 days from the date of publication of this Re-evaluation Decision. For more information regarding the basis for objecting (which must be based on scientific grounds), please refer to the PMRA's website (Request a Reconsideration of Decision, www.pmra-arla.gc.ca/english/pubreg/reconsideration-e.html), or contact the PMRA's Pest Management Information Service by phone (1-800-267-6315) or by e-mail (pmra_infoserv@hc-sc.gc.ca)

Appendix I Comments and Responses

1.0 Comment on Eye Irritation

The registrant pointed out that the submitted study (DuPont Study No. HLR 712-88) in rabbits suggests that rimsulfuron is not irritating to eyes. The registrant disagreed with what was reported in the Toxicology Profile for Rimsulfuron (Appendix III, PRVD2008-06), indicated below.

Eye irritation–rabbit (findings and labeling requirement):
Slight corneal opacity, moderate iritis and conjunctival irritation consisting of mild chemosis and slight to moderate redness in 6/6, minimal ocular discharge in 1/6; no corneal injury, all treated eyes normal by day 3. Mean scores: 31.3 (1 hr); 2.3 (24 hr); 1.0 (48 hr); 0 (72 hr)
MODERATELY IRRITATING

Response:

This level of irritation would be considered moderate for labeling purposes because the maximum irritation score (MIS) is 31.3 (at 1 hr)—with a score of 0 at 72 hr. Scores between 25 and 50 are classified under the Draize and Kay and Calandra scoring systems as "moderately irritating." The PMRA will maintain its current conclusion that rimsulfuron is a moderate eye irritant.

2.0 Comment on Fate and Behaviour in the Environment

Under Section 4.1 (Fate and Behaviour in the Environment) of PRVD2008-06, the following is noted: "Laboratory studies indicate that rimsulfuron and its transformation products IN-70941, IN-70942 and IN-E9260 have the potential to leach." However, in review of DuPont studies, AMR-1451-89, DuPont-3802, DuPont-3884 and DuPont-3885, IN-70941 was predicted to exceed 0.1 µg/L at a 1 m depth. Field soil dissipation studies conducted in Europe demonstrate that no quantifiable levels (limit of quantitation 0.2 µg/kg) of IN-70941 were detected below 50 cm, while American field soil dissipation studies show a general lack of mobility for rimsulfuron and its metabolites because no radioactivity was detected below the 15 cm soil layer.

Response:

Reports on three field studies conducted in Europe were submitted by the registrant. However, upon review of these reports, they turned out to be only study plans and no results were provided in any of them. In any case, field soil dissipation studies conducted in Europe are not acceptable by the PMRA for use in our risk assessments. The registrant also submitted a report on a field soil dissipation study that was conducted in three American states. The study involving the use of stainless steel cylinders and radioactive rimsulfuron showed no detectable radioactivity in the soil below 15 cm. This result on leaching is not consistent with the results observed in laboratory studies. Studies on adsorption/desorption, TLC and soil column leaching indicate that rimsulfuron and its transformation products IN-70941, IN-70942 and IN-E9260 are potentially

mobile in a variety of soils. As well, using the criteria of Cohen et al.[5] (1984) and the Gustafson[6] method (1989), rimsulfuron and its transformation products IN-70941, IN-70942 and IN-E9260 were all identified as potential leachers. Modelled results predicted an expected environmental concentration in groundwater of 0.002 µg/L for a particular use scenario, although in 8 out of 10 other modelled scenarios, the predictions were 0 µg/L. Although the results from the American studies showed limited leaching in the soil, the results cannot be used as the study sites were in Mississippi, California, and Rochelle, Illinois. None of the three field sites were located in Canadian-equivalent ecozones. At the Rochelle site, the study was conducted in silty clay and silty clay loam soils, rather than at sites with permeable soils.

[5] Cohen, S.Z., S.M. Creeger, R.F. Carsel and C.G. Enfield. 1984. Potential for pesticide contamination of groundwater resulting from agricultural uses. In R.F. Krugger and J.N. Seiber, eds. *Treatment and Disposal of Pesticide Wastes*. ACS Symposium Series No. 259. American Chemical Society, Washington, DC, pp. 297–325.

[6] Gustafson, D.I., 1989. Groundwater ubiquity score: a simple method for assessing pesticide leachability. *Environmental Toxicology and Chemistry*. 8 (1989), pp. 339–357.

References

Studies Considered in the Health Risk Assessment

A. LIST OF STUDIES/INFORMATION SUBMITTED BY REGISTRANT

PMRA Document Number	Reference
1235136	Acute Oral Toxicity Study with DPX-E9636-22 in Male and Female Rats (757-88), DACO: 4.2.1
1235143	Acute Dermal Toxicity Study of DPX-E9636-22 in Rabbits (745-88), DACO: 4.2.2
1235144	Acute Inhalation Toxicity Study with DPX-E9636-22 (Milled) in Rats (628-89), DACO: 4.2.3
1235145	Primary Eye Irritation Study with DPX-E9636-22 in Rabbits (712-88), DACO: 4.2.4
1235146	Primary Eye Irritation Study with DPX-E9636-22 in Rabbits Supplement to Report (712-88), DACO: 4.2.4
1235148	Primary Dermal Irritation Study with DPX-E9636-22 in Rabbits (733-88), DACO: 4.2.5
1235149	Closed-patch Repeated Insult Dermal Sensitization Study (Buehler Method) with DPX-E9636-22 in Guinea Pigs (32-89), DACO: 4.2.6
1236429	Maximization Sensitization Study (Magnusson-kligman) with DPX-E9636-22) in Guinea Pigs (444-90), DACO: 4.2.6
1143463	A Chronic (1 Year) Oral Toxicity Study in the Dog with in E9636-22 via the Diet Final Report Supplement I (HL0659-90;89-3452), DACO: 4.3.1
1143608	A Chronic (1 Year) Oral Toxicity Study in the Dog with in E9636-22 via the Diet Final Report Supplement 2 (659-90;89-3452), DACO: 4.3.1
1235127	Ten-dose Oral Subchronic of IN E9636-10 in Mice (282-88), DACO: 4.3.1
1235128	Subchronic Oral Toxicity: 90-day Study with in E9636-21 Feeding Study in Mice (3-89), DACO: 4.3.1
1235129	Ten-dose Oral Subchronic Study of in E-9636-10 in Rats (283-88), DACO: 4.3.1
1235131	Subchronic Oral Toxicity: 90-day Study with in E9636-22 Feeding Study in Dogs (604-89), DACO: 4.3.1
1236430	A Chronic (1 Year) Oral Toxicity Study in the Dog with E9636-22 via the Diet. Final Report (89-3452/659-90), DACO: 4.3.1
1235130	Subchronic Oral Toxicity: 90-day Study with in E9636-21 Feeding Study and One-generation Reproduction Study in Rats (43-89), DACO: 4.3.1,4.4.1

PMRA Document Number	Reference
1143462	Subchronic Oral Toxicity: 90-day Study with in E9636-21 Feeding Study and One-generation Reproduction Study in Rats Supplement I (HLR43-89;8480-001), DACO: 4.3.1,4.5.1
1143467	Combined Chronic Toxicity/oncogenicity Study with in E9636-22 Two-year Feeding Study in Rats Supplement I (HLR559-90;8572-001), DACO: 4.4.1,4.4.2
1143609	Combined Chronic Toxicity/oncogenicity Study with in E9636-22 Two-year Feeding Study in Rats Amendment I (559-90;8572-001), DACO: 4.4.1,4.4.2
1234408	(Con't from Roll #783) Combined Chronic Toxicity/oncogenicity Study with E9636-22 Two-year Feeding Study in Rats (One-year Interim Report) (694-89), DACO: 4.4.1,4.4.2
1235142	Combined Chromic Toxicity/oncogenicity Study with E9636-22 Two-year Feeding Study in Rats (One-year Interim Report) (694-89) (Con't on Roll #874), DACO: 4.4.1,4.4.2
1236432	Combined Chronic Toxicity/oncogenicity Study with in E9636-22 Two Year Feeding Study in Rats (559-90) (Con't on Roll #927), DACO: 4.4.1,4.4.2
1236433	(Con't from Roll #926) Combined Chronic Toxicity/oncogenicity Study with in E9636-22 Two Year Feeding Study in Rats (559-90), DACO: 4.4.1,4.4.2
1143466	Oncogenicity Study with in E9636-22 Eighteen-month Feeding Study in Mice Supplement I (HLR 732-90;8600-001), DACO: 4.4.2
1236434	Oncogenicity Study with in E9636-22 Eighteen-month Feeding Study in Mice (732-90) (Con't on Roll #928), DACO: 4.4.2
1237180	(Con't from Roll #927) Oncogenicity Study with in E9636-22 Eighteen-month Feeding Study in Mice (732-90), DACO: 4.4.2
1143464	Reproductive and Fertility Effects with in E9636-22 Multigeneration Reproduction Study in Rats Supplement I (HLR203-90;8620-001), DACO: 4.5.1
1235132	Reproductive & Fertility Effects with in E9636-22 Multigeneration Reproduction Study in Rats (Interim Report on First Generation) (652-89), DACO: 4.5.1
1143465	Teratogenicity Study of in E9636-22 in Rabbits Supplemental Report 2 (HLR403-89;8637-001), DACO: 4.5.2
1235134	Teratogenicity Study of in E9636-22 in Rats (170-89), DACO: 4.5.2
1235135	Teratogenicity Study of in E9636-22 in Rabbits (403-89), DACO: 4.5.2
1235137	Mutagenicity Testing of DPX-E9636-22 in the Salmonella Typhimurium Plate Incorporation Assay (132-89), DACO: 4.5.4

PMRA Document Number	Reference
1235138	Mutagenicity Evaluation of DPX-E9636-22 in the Cho/hprt Assay (423-89), DACO: 4.5.4
1235139	Mouse Bone Marrow Micronucleus Assay of DPX-E9636-22 (480-89), DACO: 4.5.4
1235140	Assessment of DPX-E9636-22 in the in Vitro Unscheduled DNA Synthesis Assay in Primary Rat Hepotocytes (418-89), DACO: 4.5.4
1235141	In Vitro Evaluation of DPX-E9636-22 for Chromosome Aberrations in Human Lymphocytes (346-89), DACO: 4.5.4
1039288	Use Site Description and Exposure Scenario: Rimsulfuron., DACO: 5.2 CBI
1039289	1997, Worker exposure estimates for Rimsulfuron using the pesticides handlers exposure database DuPont Experimental Station, DACO: 5.3
1034826	2002, Waiver Request for Metabolism/Toxicokinetic Studies, N/S, MRID: N/S, DACO: 6.1
1234446	Plant Metabolism Study of 14C-DPX-E9636 in Corn (AMR-1222-88), DACO: 6.3
1237191	Plant Metabolism Study of [Pyridine-2-14-C] Dpx-e9636 and [Pyrimidine-2-14C] DPX-E9636 in Potatoes (AMR-1444-89), DACO: 6.3
1140993	Metabolism Study of DPX-E9636 in Laying Hens (AMR-1808-90) December 21 1993 plus Part A: Dosing Sample Collection and Material Balance Phases (HlA6129-167) Final Report (Rimsulfuron Tech.), DACO: 6.4
1234435	[14C] DPX-E9636 Goat Metabolism Study (AMR-1394-89), DACO: 6.4
1237538	The Absorption and Disposition of 14C-DPX-E9636 in the Rat (AMR 1197-88), DACO: 6.4
1034827	2002, Waiver Request for Food, Feed and Tobacco Residue Studies, N/S, MRID: N/S, DACO: 7.1
1293633	2005, Analytical Method for the Determination of Nicosulfuron, Thifensulfuron Methyl, Ethametsulfuron Methyl, Rimsulfuron, Tribenuron Methyl, and Chlorimuron Ethyl in Oily Crop Matrices Using Spe Purification and LC/MS/MS Detection, 13412, Revision No. 1,
1148027	Freezer Storage Stability of DPX-E9636 Herbicide on Corn (AMR-1243-88), DACO: 7.3
1149187	Magnitude of Residues of DPX-E9636 25df Herbicide in Field Corn Grown in Canada (RCBT91-600), DACO: 7.4.2
1149188	Magnitude of Residues of DPX-E9636 25DF Herbicide in Potatoes Grown in Canada (RCBT91-601), DACO: 7.4.2

PMRA Document Number	Reference
1234483	Magnitude of Residues of DPX-E9636 Herbicide When Applied to Corn (AMR-1058-88), DACO: 7.4.2
1234492	Magnitude of DPX-E9636 Herbicide Residues in Corn and Processed Products (AMR-1383-89), DACO: 7.4.2
1234493	Confined Accumulation Study of DPX-E9636 on Rotational Crops (AMR-1187-88), DACO: 7.4.2
1143090	Magnitude of DPX-E9636 Hebicide Residues in Corn and Processed Products (AMR-1383-89), DACO: 7.8

B. ADDITIONAL INFORMATION CONSIDERED

Published Information

US EPA, 1994, EPA: Federal Register: Pesticide Tolerances for Rimsulfuron, DACO: 12.5

European Food Safety Authority, 2005, EFSA Scientific Report (2005) 45, 1-61, Conclusion on the peer review of rimsulfuron, DACO: 12.5

European Commission Health & Consumer Protection Directorate-general, 2006, Final Review report for the active substance rimsulfuron, DACO: 12.5

California Environmental Protection Agency, 1993, California Environmental Protection Agency Department of Pesticide Regulation Medical Toxicology Branch Summary of Toxicology Data Rimsulfuron Chemical Code # 3835, Tolerance # 51932 SB 950 # New A.I. 5/27

Unpublished Information

PMRA Document Number	Reference
942293	1993, USA EPA, Review Toxicology data to support Registrant's request for EUP and temporary tolerance., DACO: 12.5
942294	1993, Review Toxicology data to support Registrant's request for EUP and temporary tolerance., DACO: 12.5
942300	1993, USA EPA, Review Toxicology data to support Registrant's request for EUP and temporary tolerance., DACO: 12.5
942308	1993, USA EPA, Review Toxicology data to support Registrant's request for EUP and temporary tolerance., DACO: 12.5
942313	1993, USA EPA, DPX-E9636- Review submitted toxicology studies to support registration, DACO: 12.5

PMRA Document Number	Reference
942322	1993, USA EPA, DPX-E96363- Review submitted toxicology studies to support registration., HLR 732-90, DACO: 12.5
942327	1993, USA EPA, DPX-E9636- Review submitted metabolism study to support registration, ARM-1197-88, MRID: 425407-01, DACO: 12.5
942336	1993, USA EPA, DPX-E9636- Review submmitted metabolism study to support registration, HLO 659-90, MRID: 419316-43, DACO: 12.5
942337	1993, USA EPA, DPX-E9636 - Review submitted metabolism study to support registration, MRID: 419316-22, DACO: 12.5
942338	1993, USA EPA, Review acute toxicology studies to support Registrant's requst for EUP and temporary tolerance, HLR 39-90, MRID: 419316-23, DACO: 12.5
942339	1993, USA EPA, DPX-E9636 - Review submitted toxicology studies to support registration, DACO: 12.5
942340	1993, U.S. EPA, DPX-E9636 - Review submitted toxicology studies to support registration, DACO: 12.5
942341	1993, USA EPA, DPX-E9636- Review submitted toxicology studies to support registration, 628-89, DACO: 12.5
942346	1993, USA EPA, DPX-E9636 Review submitted toxicology studies to support registration, 432-90, MRID: 4581-786, DACO: 12.5
942355	1993, USA EPA, DPX-E9636 Review submitted toxicology studies to support registration, 212-90, MRID: 4681-786, DACO: 12.5
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